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ORIGINAL ARTICLE.

Tetanus.

By S. E. SHELDON, M.D., TOPEKA.

Read Before the Topeka Academy of Medicine and Surgery
October 14, 1895.

Tetanus is an infectious disease characterized by spasmodic or persistent painful muscular contraction due to an abnormal excitability of the medulla oblongata and spinal cord induced by the ptomaine of a specific pathogenic germ, the bacillus tetani.

The manner of infection is usually through a recent wound, coming in contact with garden earth or decaying animal or vegetable matter, or any other medium that forms a suitable culture media in which they grow and multiply. In a large number of experiments made by Nicolaier, Rosenbauch and others they found the bacillus tetani in the garden earth and in decaying wood, which they were enabled to reproduce in suitable culture media; and from these cultures, as well as from the bacillus found in the earth, they were, by inoculation, enabled to produce tetanus in animals.

These investigations have been carried further, and from these bacilli several ptomaines have been produced, which, when injected into animals, produced tetanus almost instantly. These ptomaines, as shown by Brieger, are toxic in character, and are four in number:

1. Tetatin.
2. Tetano-toxin.
3. Muriate of toxin.
4. Spasmotoxin.

The bacillus tetani is an anærobic micro-organism, having a spore at one end, which gives it the appearance of a pin or of a drum-stick. These bacilli do not develop as rapidly as some other forms, but have been seen to produce spores in about thirty hours at the temperature of the body, and it is in this manner that they reproduce themselves.

Laboratory observations have shown that devitalized animal tissue is the best media in which to develop the ptomaines of tetanus, and it has further demonstrated that the same rules govern these germs that govern other pathogenic germs and their ptomaines, viz.: that the character of the ptomaine or toxin is largely determined by the character of the culture media in which it was produced. Thus, for instance, if brain tissue was used, tetatin and tetanotoxin predominated; whereas, when muscular and connective tissue was used as the culture media, spasmotoxin and muriate of tetatin predominated.

These germs can always be found in the pus of, and the tissues in close proximity to, tetanic wounds; whereas, they are not usually found in the blood of tetanic patients or animals. This is probably due to the antitoxic and antiseptic properties of the blood, whereby the germs are destroyed or their growth inhibited.

The next operation of practical importance is what is usually termed the period of incubation, or the time that intervenes between the infection and the manifestation of the disease. Clinical and laboratory observations show that the time required for development of the ptomaines varies from five days to three or four weeks, dependent: (1) upon the virulency of the germs; and (2) upon the media in which they develop. And again, as ptomaines are a transitory product of decomposition, the period of development modifies the character of the ptomaine.

If only a small number of the bacilli are introduced into the tissues, they produce no toxic effect, as they are soon destroyed by the process of phagocytosis, and are eliminated from the system through the usual channels.

The following accurate observations, made and reported by Benoni, are of great etiological value:

During a recent earthquake at Bajardo a church was destroyed and seventy persons injured, seven of whom developed tetanus. Experiments by inoculation of the earth and dust from these ruins and of the pus and other secretions and exudations from these tetanic patients produced tetanus on animals and also developed rapidly, in suitable culture media, large colonies of the bacillus tetani.

During this same earthquake another church at Diano-Marina, only a few miles distant from the former, was destroyed and many persons injured; but in none was tetanus developed, and inoculation of the dust and debris from these ruins produced only negative results. The soil and dust of one place was infected and the other was not.

Pathology and morbid anatomy of the spinal cord and meninges: Post mortem appearance of this cord and medulla frequently showed no material change, while in other cases there was a congested and hyperemic condition, especially of the gray matter and of the meninges, while in cases of longer standing these portions of the cord were undergoing granular degeneration.

Symptoms.—The disease is usually ushered in by slight rigors, followed by fever, which usually continues throughout the disease; then there is stiffness of the muscles of neck and face, and later of the muscles of back; Soon the muscles controlled by the motor fibres of the fifth pair of nerves take on spasmodic action with inability to open mouth, and you get one of the first symptoms from which the disease derives its name, "lockjaw."

Soon some other sets of muscles will become affected through their nerve supply, and muscular contraction, either spasmodic or continuous, will take place, oftentimes so

severe as to cause the patient to cry out with pain. Deglutition is oftentimes materially interfered with, necessitating alimentation through the stomach tube or per rectum.

Another pathognomonic symptom which, when once seen can never be forgotten, is the peculiar facial expression, known as "virus sardonicus." Moving of patient, noises in the room, attempts to take food or drink, or any unusual exertion or excitement will oftentimes precipitate an attack of spasmodic contraction.

A mark of differential diagnosis is found in the fact that, as a rule, only one set of muscles are affected at one time, as, for instance, the muscles of the back and flexors of limbs, and you get the condition known as opisthotonus; or again, the muscles of the abdomen or anterior muscles of thorax, and you get emprosthotonus; and again, the muscles of the side, producing plenothotonous. This action upon groups of muscles is unlike the action of strychnia, when you get a general spasmodic action of all of the muscles.

The same rule would apply to hysteria or hydrophobia, with either of which it might be conformant.

Then the history of each case would greatly aid you in making a correct diagnosis.

Colored people are believed to be more subject to the disease than whites, and it prevails more in warm and tropical climates than in cold, as the germs require warmth to facilitate their growth and development.

Injuries of the feet and hands are more frequently followed by tetanus than any other portions of the body, as they are the most freely exposed to infection from the earth.

Prognosis.—The prognosis of tetanus is usually grave, as nearly 75 per cent. terminate fatally.

In any given case of tetanus, the longer the time that intervenes between the infection and the first symptoms, the more favorable may be your prognosis, while those that come on within the shortest period—five, six or seven days—are almost always fatal. This no doubt largely depends upon

the virulency of the germ, as well as upon number composing the infection, modified also by the character of the devitalized tissue in which they are placed as the media in which they grow and develop their ptomaines.

The treatment naturally divides itself into three separate and distinct stages: (1) prophylactic; (2) relief spasms; (3) the removal of all existing germs, devitalized and infected tissue and the elimination of the toxins.

1. The prophylaxis consists in the careful and thorough cleansing of every wound, but more especially those occurring about the hands and feet, or where they may have been contaminated with garden earth, or earth containing much decaying vegetable or animal matter before applying a permanent dressing.

2. The relief of spasms. This branch of the treatment is of the utmost importance and often difficult to accomplish, especially in those violent cases, without causing an injury to the nerve centers, or some other vital parts equally as inimical to life as the disease itself, on account of the large dosage required.

Chloroform by inhalation may be resorted to for temporary relief, but cannot safely be continued a great length of time.

For more permanent relief morphine, or morphine and atropia given hypodermically, gives the best results; next comes chloral hydrate, the bromides, hyosciamus cannabiz, indica, etc. These may be given separately or in various combinations to meet the indications and requirements of the individual case under treatment.

Perfect quiet of patients and freedom from all noise and excitement are essential elements in the successful management of this stage of the disease.

3. The third stage of treatment consists in first cleansing and freeing the wound of all germs and of all devitalized and infected tissue. This can but be accomplished by opening the wound freely, and by the free use of the curette and scissors, and by free and thorough antiseptic irrigation, followed by suitable antiseptic dressings. Amputa-

tion and division of nerves are rarely if ever advisable, or even admissible.

Next comes the latter part of the third stage of treatment, viz.: elimination of the poison, and this is best accomplished by keeping the various excretory functions active, viz.: those of the skin, kidneys, bowels, etc., supplemented by a nourishing diet and supportive treatment until the ptomaines have lost their virulency by the chemical changes through which they are continually passing.

The diet should be liquid and either pre-digested or of a character that is easily digested and readily assimilated. If patient is unable to swallow without inducing spasms the food should be given with the stomach tube, or by enema, or by inunction.

Of the antitoxine treatment of this disease I will not speak, as I have never had an opportunity of using it, but favorable results have been reported by some who have employed it, but not sufficient to establish its superiority over other well known lines of treatment; but as it is along the line of advanced therapeutics, it is deserving of a fair trial by the profession. I desire to report two or three cases that have recently come under my observation as illustrative of some points that I consider of special importance.

Case I.—Wm. B. W—, age 24, while out hunting stopped to dress some game, using his pocket knife for that purpose. He had stuck the knife in the ground by his side, and taking it up to use it again he accidentally thrust it into the anterior aspect of his right thigh, about the middle third, inflicting only a very small and, as he thought, an insignificant wound. No inconvenience was experienced from it until about the twelfth day, when he began to feel the premonitory symptoms of pain and stiffness of the muscles of the neck and back, with slight chill, followed by fever. The symptoms gradually increased, and in three days thereafter tetanic spasms began, and he was brought to this city and placed under my care. The treatment was conducted upon the line already indicated, and he made a slow but very satisfactory recovery in about

three or four weeks.

Case II.—Lucy C—, colored, age 30, rather poorly nourished, and living in a damp basement, the floor of which was of wood and badly decayed near the walls, had a molar tooth extracted with considerable laceration of the gums and fracture of the alveola. About twelve days afterward she began to feel stiffness of the muscles of the face and neck, and in three days tetanic symptoms developed, but not as severe as in case No. 1. The treatment as before indicated was followed, and she made a very satisfactory recovery.

Case III.—Willie B—, colored, age 12 years, fell from an apple tree that was in the garden yard, striking upon his right hand, fracturing the radius and ulna at about the middle third, the ends of the bones protruding from the wound and coming in contact with the garden earth. The wound was dressed by the family physician, and all went well until the fifth day, when tetanic spasms developed very suddenly and very severe. I saw the case the next day in consultation. The wound was cleansed as well and thoroughly as possible without disturbing the fracture, and the line of treatment as before indicated was followed, as far as possible, with only partial relief, and the child died the following day.

WE have had an opportunity to try the effects of Paskola on a patient who, after convalescence from typhoid fever, suffered from indigestion. There seemed to be no change at first, but after taking two bottles digestion improved and there was a gain in weight of twelve pounds.

DR. J. H. McCASEY, formerly superintendent of the State Asylum, is now conducting an eye and ear infirmary at Dayton, O.

I HAVE had the honor, said the chiropractist, of removing corns from some of the crowned heads of Europe.

Ten Law Points in Regard to Abortion.

General Practitioner.

1. It is a felony for any woman to take any drugs, use any instrument or any means whatsoever, for the purpose of producing an abortion upon herself.

2. It is a felony for any person to administer or cause to be administered to any woman any drugs, or cause to be used any instrument or other means whatsoever, for the purpose of producing an abortion upon her.

3. It is a misdemeanor to supply or cause to be supplied to any woman or any other person the means whereby abortion may be produced.

4. If the attempt be made to produce abortion, it makes no difference whether the woman be pregnant or not.

5. It makes no difference whether an injury be inflicted or not.

6. It makes no difference whether the attempt to commit abortion be successful or not.

7. It makes no difference what stage of pregnancy the woman be in at the time the attempt is made.

8. If death takes place from an attempt to produce abortion the agent is indictable for willful murder.

9. It makes no difference if the woman consent to or even solicit the attempt to produce abortion.

10. The victim is always considered an accomplice, and her evidence against the agent must be corroborated by other testimony.

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Topeka, Kansas, Saturday, Nov. 9, 1895.

DIPHThERIA antitoxine has been formally reported upon in the practice of Dr. William Hallock Park, of New York, Dr. Charles F. Withington, of Roxbury, Mass.; Dr. George G. Sears, of Boston; Dr. Wilson, president of the New York Board of Health, and many others.

DR. BENNETT recommends for rhus poisoning a wash of—

Hyposulphite of soda..... 180 gr.

Water..... 6 oz.

which, he says, with free evacuation of the bowels, will cure in a day or two.

was attending the Kansas Medical College, had married a girl with a funny name and fooled his old dad, when he heard that he had got "Ann Giny Pectoris."

WOMEN would be much less liable to take cold if they would remove their wraps and coats in churches, theaters and such public places the same as men.

It is pretty well demonstrated that permanganate of potassium is the best antidote to opium poisoning. From one to two grains should be given at a time hypodermically.

DR. E. LAMPHEAR, of the Kansas City *Medical Index*, has assumed charge of the *American Journal of Surgery and Obstetrics* at St. Louis.

DR. WILLISTON, of the State University, has been favoring the Kansas Medical College with some very interesting lectures on anatomy.

GLYCERINE suppositories in the rectum during labor will assist uterine inertia according to Dr. Cowen, in the *Medical Age*.

IN the treatment of diphtheria there is no one thing more needed than rest. Support the patient and let it rest. Let it alone—do.

DR. C. S. McCLINTOCK will fill the chair of anatomy in the Kansas Medical College formerly occupied by Dr. H. L. Alkire.

ATROPINE is one of the best remedies in uterine hemorrhage.

THE old gentleman thought his son, who

Dual Brain Action.

University Medical Magazine.

Bruce (*Brain*, Part LXIX, 1895,) reports a most remarkable case of dual brain action, describing an individual who appeared to have two separate and distinct states of consciousness, and in whom the right and left brain alternately exerted a preponderating influence over the motor functions. The patient was a Welshman, aged 47 years, who had been insane for fifteen years. His early symptoms were those of melancholia; later, he was noisy, destructive and demented. During an observation of some months, it became apparent that either hemisphere was capable of independent action, more especially with regard to mental processes, the dual action being confirmed by the invariable change from right-handedness to left-handedness, or vice versa, which coincided with what was termed the English and Welsh stages. When in the English stage, right-handed, and presumably using the left cerebral hemisphere, he was the subject of chronic mania. He spoke in English, but understood and would converse in Welsh; was restless, destructive and thievish; exhibited a fair amount of intelligence; wrote, drew, and related incidents of his past life; was bold and fearless in manner; recognized doctors and attendants. Although he remembered everything which he noticed during previous English stages, his memory was a blank to everything that occurred during any Welsh stage. The circulation was good, appetite increased, bowels regular and he was fond of bathing. He wrote by preference with the right hand; letters were fairly legible, and he wrote from left to right. If requested, he would write with his left hand, but produced mirror writing, traversing paper from right to left. Special senses active, regardless of severest weather. When in Welsh stage, left handed and presumably using his right cerebral hemisphere, he was the subject of dementia. His mental and physical conditions were the reverse of what they were in the English stage. His speech was almost

unintelligible; What could be understood was Welsh. He understood Welsh, and would occasionally answer a question; had no idea of English. Would sit doubled up in a chair for hours; impossible to estimate his education or memory; was shy and suspicious; did not recognize doctors nor attendants; circulation was weak, extremities livid, legs often edematous; was constipated, voided small quantities of urine at long intervals, disliked bathing. In writing he used left hand, traversing paper from left to right, but made capitals backward. Special senses were unimpaired, but he was unable to analyze and appreciate the crude sensations received. The presence of distinct bodily symptoms peculiar to the alternating mental phase was one of the most noticeable features of the case. Occasionally, when passing from the English to the Welsh stage, or the reverse, the patient would pass through an intermediate condition, in which he was ambidextrous, spoke a mixture of Welsh and English, and understood both languages. This stage was often absent, or so short as to pass unnoticed, the patient suddenly waking up to new life and activity or becoming suddenly demented. Some circulatory change was believed to be the direct cause of the transition from one stage to the other. A comparison of the mental power of each hemisphere placed the right at a much lower level than the left, and suggested the query, Is this due to the unequal ravages of disease or to the unequal development of education?

Cardiac Irregularity and Obesity.

The College and Clinical Record.

According to Dr. Kisch, of Marienbad, no functional disturbance in the organism occasions the individual so much anxiety and apprehension as when the regular action of the heart gets disturbed. (*Berliner klinische Wochenschrift* in the *Medical Record*.) The educated man is so accustomed from infancy upward to the regular work of his heart, and is so convinced of its supreme importance, that any disturbance of it read-

ily arouses in him the fear that the heart may refuse completely its office. The author has seen medical men who had observed cardiac irregularity in themselves plunged thereby into deep mental depression. There is no reason for this. The author points out that irregularity may awaken apprehensions in grave disease of circulatory or respiratory apparatus, while, on the other hand, it possesses only trifling significance. The author discusses the cardiac arrhythmia of obese persons. Slight irregularity is observed in youthful patients with slight heart trouble, especially in young girls who exhibit the anæmic form of lipomatosis. Actual irregularity, in which regular beats and pulses alternate, is seen chiefly in fat people who have already passed their fiftieth year, and in whom other symptoms of heart trouble are present. Complete irregularity, in which pulse-waves alternating in tension and size regularly follow one another, is seen in cases of obesity with marked heart weakness in which there is dyspnoea, angina pectoris, pronounced backward pressure in the venous system, with œdema and dropsy. Kisch holds, in contradistinction to French authors, that simple cardiac intermittency and slight irregularity are not unfavorable as regards prognosis, and these cases may be seen, after a course of treatment directed to adiposity, to recover their pulse regularity. On the other hand, he regards the occurrence of complete irregularity, delirium cordis, as a sign of grave disturbance of the heart mechanism which can never be completely removed, and is sometimes also the sign of suddenly occurring death.

Leucorrhœa in Young Unmarried Women.

Calcutta Medical Reporter.

In the treatment of leucorrhœa in young unmarried women, instances frequently occur in which the usual practice of making an examination to ascertain the condition of the pelvic viscera is so obnoxious to the patient, or is so firmly opposed that the physician is forced to abandon it and have re-

course to medicine.

In such cases Dr. Slocum has learned to depend upon the scientific action which cantharides appear to exercise upon the cells constituting the genital as well as the urinary system. It is probably by direct stimulation of the cell just to the point of successful resistance that the benefit is secured, as the dose is very small. Strangury, or other unpleasant symptom has not been produced. The action of the drug has been so uniformly satisfactory that when it fails such result forms a strong basis for suspecting the presence of something more than simple hyperemia or mild inflammation. Lessening of the discharge is sometimes noted within five days, but in several cases of profuse discharge of four years' and longer duration the treatment was not successful until after a month's persistent use.

The formula which has seemed the best contains also the tincture of ferric chloride, and dilute phosphoric acids. These though probably modifying the action of the cantharides, are only adjuvants. Following is the usual form of administration:

Tinc. of cantharides.....	96 minims
Tinc. of ferric chloride....	160 minims
Dilute phosphoric acid....	160 minims
Syrup of lemon.....	2 fluid ozs.
Water sufficient to make...	4 fluid ozs.

M. Dose.—One teaspoonful in water after meals.

WANTED—A young physician who is a graduate of pharmacy or can register and can loan employer seven hundred and fifty dollars (\$750) for six months. Note secured by drug stock. Steady job with good salary. Address "Pedra," care KANSAS MEDICAL JOURNAL.

It took \$2,000,000 of the New York syndicate's money to beat the income tax law.

THE antitoxine treatment in Pittsburg, Pa., is reported very successful.

A New Operation for Chronic Catarrhal and Chronic Suppurative Deafness.

Thomas H. Shastid. A.B., M.D., in Medical Record.

In several cases of deafness, of the kinds mentioned above, I have noted the results of traction on the handle of the malleus by means of a blunt hook carried through an incision in the drum membrane. This procedure, so far as I know, has not been performed or proposed before.

It was suggested to me by an accident, which, in the course of an operation, occurred in consequence of the unruliness of the patient. This patient had long been a sufferer from catarrhal deafness with subjective noises, for which all the ordinary means of treatment had been tried in vain. I was therefore attempting, by an original method, to produce a permanent perforation of one of her tympanic membranes. Just at a moment when, as a part of the technique of my method, I was introducing through the perforation an angular spatula, the patient suddenly, and without a word of warning, jerked her head away, and the spatula, engaging in the tympanum, was pulled from my fingers. When I recovered the instrument she declared that she heard better. A moment later she declared also that her "head noises" had almost ceased. The assertion regarding the hearing I verified, finding that the hearing distance had increased for the acoumeter from 4 feet to 25 feet, for loud speech from 8 feet to 30 feet, and for whispers from 0 inch to 8 feet. Exactly what it was that had taken place to produce the improvement I could not determine; but from the position in which I had held the spatula I thought that it must have been a traction made by the instrument upon the handle of the malleus. Whether or not this explanation was right, the procedure of traction on the handle of the malleus applied intentionally, I have frequently found to give good results.

The way in which I do the operation is this: The auditory canal having been thoroughly cleansed and antiseptized, a slight scratch is made with the lance knife on the

anterior portion of the drum membrane and a 50 per cent. solution of cocaine instilled into the ear and allowed to remain for five minutes. This not only produces perfect anæsthesia for the incision, but also decidedly lessens the unpleasant sensations that accompany the tractions. These sensations, it may be as well to remark, are usually whistling, ringing, or roaring sounds, together with dizziness and sometimes actual pain. The incision is made with the lance-knife just anterior to the handle of the malleus, parallel with it, and from two and a half to three millimetres in length. It is made in front of the handle rather than behind it, since in the former place the hemorrhage is less—though in neither place is it of much consequence. The first instrument that I used for applying the traction was the angular spatula; but I have since had made a blunt hook which I find far easier to introduce through the simple slit. This hook is $1\frac{1}{2}$ mm. in length, slightly enlarged and rounded at the extremity, very slightly curved toward the operator, and mounted on a shaft at an angle of one hundred degrees. It is introduced through the incision and rotated in such manner that it comes to lie directly across the handle of the malleus, when with it are made three or four rather quick, but of course perfectly gentle, tractions. It is then turned and withdrawn. If, upon test, no improvement be found, the instrument may be again introduced and the tractions repeated with a little more force. This technique was employed, practically without variation, in all the cases whose record follows, the single modification having been the substitution in the last four cases of the blunt hook, or tractor, for the spatula. The incision, it is true, instead of being made parallel with the handle of the malleus, might be made at right angles to it, when the necessity for rotating the hook would be obviated; but since I have observed that now and then during the performance of the tractions the hook slips along the handle of the malleus, I have thought that if the incision were at right angles the hook in slipping might possibly tear the membrane and thus inflict upon it

an unnecessary traumatism,

To sum up the report: Of the six cases four were of catarrhal, two of suppurative origin. Of the four cases of catarrhal origin traction was found useless in one, decidedly beneficial in three. Of the two cases of suppurative origin traction was found useless in one, decidedly beneficial in one. All the cases had previously been treated by ordinary methods, either entirely without benefit or with benefit of only a slight or only a temporary character.

How can we explain the fact that in some of these cases traction succeeded when the usual methods had failed? In this way: By traction the force was applied to the ossicles directly; by the usual methods it was applied to them indirectly—that is, through the medium of the drum membrane. This structure, in many cases of middle-ear deafness, is so thickened and stiffened that when the blast of air strikes upon it it either entirely refuses to draw the handle of the malleus outward or draws it outward to only a very slight extent. Even when the membrane willingly stretches till the umbo has described as great an outward arc as it could possibly do under the influence of traction—even then, by its very stretching, the membrane lessens the suddenness with which the force acts upon the ossicles. But it is precisely suddenness of action that we want. The truth of this last assertion we may know not only from the supposition that, in these cases, the good that is done is accomplished by the rupturing of limiting adhesive bands and hence is accomplished in greater degree the greater the rupturing power or suddenness with which the force acts, but also from the well known clinical fact that frequently when inflation, by means of a slow, gradually increased blast, has been tried in vain, a quick, sharp, sudden blast opens the gates of sound like magic.

In conclusion, I desire that in laying before the profession the facts concerning this operation I be not misunderstood. As a measure for routine I do not think the procedure worth the slightest attention. Politzerization, catheterization, and massage,

in the kinds of cases we have been considering, have long been, and are likely long to remain, our chief reliance, to the almost total exclusion of intra-tympanic operations. All that I wish to claim for traction on the handle of the malleus is that it is simple and safe, and that, judging from the results in the few cases in which I have tried it, it is likely to prove of real and decided service in some of the many cases in which ordinary treatment is ineffective.

Potassium Bichromate in Gastric Affections.

J. B. Bradbury, in *Lancet*.

The use of potassium bichromate in gastric affections was first suggested by Prof. Fraser, of Edinburgh (see the *Bulletin*, Vol. VII, p. 681). Dr. Bradbury now reports that he has administered potassium bichromate in seven cases of gastric disturbance, with the result that five out of the seven were very much benefited, while two received little or no relief.

The first case was one of gastralgia, with pain occurring usually directly after eating, which was relieved by vomiting. The attacks were usually relieved by a powder, containing bismuth, opium, and magnesia, or by iron, but in the last attack these drugs did not alleviate the severe pain. On this occasion Dr. B. administered potassium bichromate in 1-10 grn. (.006 gme.) doses, in capsules, three times a day, on an empty stomach. After two or three days the patient became much better and continued to improve. Altogether she took twenty-four capsules.

The second case was that of a man suffering from vomiting several hours after food. No pain was felt, but occasionally bright blood was found in the vomited matter. He had been troubled with these attacks of sickness for three years. The author administered potassium bichromate as above. The patient gradually improved and, three weeks after admission into the hospital, he left the latter, having gained weight and the power to take solid food.

In the third case, the patient had pain in the stomach, and vomiting, the symptoms having commenced seven years previously, and had been more or less present ever since. The drug was administered as above, with an occasional dose of an elixir of cascara sagrada. She showed signs of improvement from the second day, and three weeks later she was well enough to be discharged from the hospital. She reported two weeks after that and stated that she was practically well.

The fourth patient was complaining of a constant gnawing pain in the epigastrium, and occasionally shooting into the loins, which symptom had lasted for about six months. There was no vomiting. He was also put on potassium bichromate, 1-10 grn. capsules, three times daily. Improvement almost immediately followed, the pain abated, the patient gained weight and was soon discharged, being able to take solid food with impunity.

Case five had pain after eating, extending between the shoulders, occasional vomiting, but no hematemesis. In this instance also the potassium bichromate acted promptly.

The other two cases were not successful. One was that of a man with a feeling of rawness and soreness in the stomach, with sometimes acute pain; and the seventh patient was a woman past the menopause, who had at times, for years, severe attacks of gastralgia, which were usually relieved by a powder containing bismuth, magnesia and morphine.

Dr. Vulpian is quoted as having also obtained good results from the use of potassium bichromate in certain cases of dyspepsia. Both he and Dr. Bradbury think that the drug is most useful in those cases of dyspepsia which simulate cancer.

The author states that potassium bichromate may be given in capsules, as above, in pills, or in solution, with a flavoring agent, but he prefers the former.

Camphor Subcutaneously in Collapse.

Shilling (Munch. Med. Wochensch.).

In grave cases of infectious diseases, as in pneumonia, and also in certain cases of poisoning, collapse often sets in; and it then becomes necessary to administer prompt heart stimulants. For this purpose, ether, tincture of musk and camphor (in olive oil) are often resorted to.

The effects of ether, however, are very evanescent; tincture musk is a good heart stimulant, but it is often very variable as regards its composition; while camphor seems to be free from these objections.

Although subcutaneous injections of camphor in oil have heretofore been used to advantage in cases of collapse, the author thinks that the quantities injected have been too small to produce the maximum of good which this remedy can produce in such cases.

He now injects, in children 1 c.c (16 min.) of a 10 per cent. solution in olive oil, and 3 to 10 c.c. in adults, at one seance. He states that the effect of an injection of 0.5 gme. ($7\frac{1}{2}$ grn.) of camphor upon a barely perceptible, thready pulse is marked, while the influence of a 1-gme. ($15\frac{1}{2}$ grn.) is usually striking. He further says that he has never observed any untoward secondary effect to be produced upon the skin, the brain, the lungs, etc.—as text-books usually state takes place—by the administration of large doses of camphor.

In a case of ulcerous endocarditis the author successfully administered, subcutaneously, 1 gme. ($15\frac{1}{2}$ grn.) of camphor, twice a day, during periods of collapse.

In another case, that of a 16-year-old patient suffering with pleuro-pneumonia, during the course of which slight cerebro-spinal meningitis, unconsciousness, and faint muscular contractions in the upper extremities took place, he administered 1 gme. ($15\frac{1}{2}$ grn.) of camphor at one dose, on the appearance of heart failure, and repeated the injection daily, without in the least aggravating the cerebral symptoms; on the contrary, the cardiac impulse grew stronger and the

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cerebral phenomena, due to irritation, disappeared in a few days. The author points to this case as a proof that large doses of camphor do not produce deleterious effects upon the central nervous system, as has heretofore been maintained.

Dr. S. therefore warmly recommends that large doses of the oily solution of camphor be injected in all cases of collapse where immediate action is necessary. As camphor is eliminated from the body in about two hours, through the urine, the author states that cumulative effects need not be feared. As regards the point of injection, care must be taken to avoid the veins.

Intravenous Injection of Mercury in the Treatment of Syphilis.

The College and Clinical Record.

In concluding his article upon the method of Baccelli, Dinkler (*Berliner Klinische Wochenschrift*, and *Therap. Gazette*, August 15, 1895,) claims that, as a result of his own experiments, he does not believe intravenous injections of mercury will ever supplant the inunction or intramuscular injection methods formerly employed, for the reasons that the technique itself is difficult, that the danger of thrombosis formation is great, and, finally that sequelæ are more likely to occur.

On the other hand, its rapid action recommends it in certain conditions. Tertiaries yield more readily than secondaries. The papulo-macular and psoriatic syphilides, condylomata, sore throat, and the chancre all show improvement in the first week, for the reason that the mercury circulates more readily in the blood and is also eliminated more rapidly. The frequent occurrence of sequelæ is explained in this way, for, according to Blaschko, no trace of mercury after intravenous injection could be found on the fourteenth day, while by the inunction cure traces of the drug are demonstrable for weeks and months.

In cases of rapidly spreading skin eruptions and mucous affections, and in grave cases of syphilis of the central nervous system, it is warmly recommended to check the

onward progress of the disease, some eight to twelve injections being employed, and the use of one of the other methods continued until a cure is effected.

In doubtful cases of syphilis it can be employed as a means of securing a rapid therapeutic test.

How Should Hydrochloric Acid Be Employed in Diseases of the Stomach.

The College and Clinical Record.

Huchard (*Journal des Practiciens*, and *Therap. Gazette*, August 15, 1895,) considers that this acid is capable of exercising a double action upon the digestion: (1) an enpeptic action; (2) an antiseptic action. As an enpeptic it should be employed in hypochloric cases, in chronic gastritis, in cancer of the stomach, in pyrexias, in pulmonary tuberculosis; in a word, in all cases in which the digestive power is diminished and the amount of gastric juice is lessened. The following is the method of administration:

R Acid. hydrochlorici.....m xv
Aq. dest.....f̄v viij

Sig. A wineglassful toward the end of each meal and one-half hour after.

Or,

R Acid. hydrochlorici.....m xlv
Aq. dest.....f̄v ixss

M. Sig.—A tablespoonful in half a glass of warm or cold water at the end of each meal.

The contraindications to the employment of this drug are all forms of hyperchloride acidity, in ulcer (round) of the stomach, in dyspepsias accompanied by hyperæsthesia. The treatment should not be continued for more than three weeks or a month, to be continued, if necessary, after a remission of fifteen days. As an antiseptic it has produced good results, in which fermentation has been produced with pyrosis due to the formation of organic acids, in dilatation of the stomach, etc. It should be given in these cases two or three hours after the meal.

Antitoxin in London.

Brief.

A correspondent of the *New York Medical Record* brings a very unfavorable report from the hospitals of London. The physician in charge of one of the largest of the seven hospitals devoted exclusively to infectious diseases (the Northwestern London Fever Hospital) said that in common with the other institutions, save one that is neutral, the antitoxin is now regarded there as a complete failure, and on the whole rather harmful to patients. The mortality ranges as formerly, about 27 per cent.

Eczema of the Genitals.

Cincinnati Lancet-Clinic.

J. Abbott Cantrell, M.D., in the August number of the Philadelphia *Polyclinic*, says that in his experience this is one of the most disagreeable and distressing complaints that can afflict a person. The disease may attack the penis or scrotum alone, or both in conjunction. The patch may be a small one and may be moist or dry. The usual condition is a thickened, swollen and infiltrated condition of the parts, very red and painful to the touch. The scrotum may be thrown up in ridges and covered with crusts that leave a raw surface on removal. This inflammation often extends to the anus and adjoining parts. The patient is unable to walk with ease, and the itching is very intense. In the female the same conditions of swelling, inflammation and irritation exist. In the treatment of this troublesome affection the greatest care must be paid to the digestive organs. No article of diet should be taken that is known to disagree with the patient in the slightest degree. If the action of the intestinal canal is rather sluggish, saline laxatives should be ordered. The kidneys must be kept active, and citrate of potash or lithium in small doses may be given in the morning, and throughout the day if required.

When the parts are much swollen, very

red and painful, the patient should be ordered to bed, and the inflamed parts frequently bathed and fomented with a saturated solution of boric acid. After the inflammation has been relieved by this means, an ointment of 10 to 30 grains of calomel to the ounce of zinc oxide ointment as a base. In cases where the skin is much indurated, but not severely inflamed, a stimulating application of 20 grains salicylic acid to an ounce of vaseline is very useful.

Treatment of Tobaccoism.

Kemp (Am. Pract. and News).

The author lays down as an introductory premise that, as with alcoholism, tobaccoism is either a disease or a diseased condition. In its habitual use tobacco is no worse than tea, and is the least harmful of all narcotics. In the manner of use, chewing is the most injurious. In youth its use stunts the growth of the man in all senses, mentally, morally and physically; in the young it acts chiefly by checking oxidation and elimination; under the age of sixteen it should be absolutely prohibited. Tobacco, as a rule, has a beneficial effect, except in youth, or on an empty stomach, or in the presence of an idiosyncrasy. Many even maintain that its use is prophylactic against pneumonia, and that it serves to limit the wear and tear of the muscular and nervous systems. The author considers that only those whose systems are predisposed to narcotism, or whose will power is weakened by organic brain disease, ever overstep the bounds of moderation in its use and pass from the habit to what he calls tobaccoism; but a man may lay the foundation for it in his offspring. In his own person, too, disease, privation, and worry may produce functional or structural change in the cerebral vortex, when he may then become a slave. Lastly, it may lead to his becoming a slave to the excessive use of alcohol and opium. An accidental (first time or not) use of tobacco may cause an acute poisoning which may be rapidly fatal. In such a case the stomach must be at once emptied, and tannin and the iodides admin-

istered, if necessary, in conjunction with ammonia or some other stimulant. The symptoms, if mild, may last for a day or two and do not require treatment. Should they persist after two or three attempts to smoke, then the use of tobacco should be entirely discontinued. In severe cases the heart's action is functionally affected, there are dyspepsia and pharyngitis, and as a sequence anemia, anorexia, constipation, and the special train of nervous phenomena. The treatment in such cases is the application of a belladonna plaster over the heart; the administration, often best in pill form, of aloin, strychnine and belladonna, with bromide and a gastric tonic, and the withdrawal of tobacco. Many regard amblyopia as resulting from the combined use of alcohol and tobacco; but the author quotes a case in a total abstainer, who, although nearly blind, on abandoning the use of tobacco, quite recovered. As a tonic he recommends a mixture containing gold and sodium chloride, strychnine nitrate, nitroglycerin, atropine, and digitalis.

Welch on Diphtheria.

Wilkinson's Omaha Clinic

In an exhaustive article on the subject of the treatment of diphtheria by antitoxin in the *Johns Hopkins Hospital Bulletin*, Dr. Welch thus sums up in the interest of the treatment:

The principal conclusion which I would draw from this paper is that our study of the treatment of over 7,000 cases of diphtheria by antitoxin demonstrates beyond all reasonable doubt that anti-diphtheric serum is a specific curative agent for diphtheria, surpassing in its efficacy all other known methods of treatment for this disease. It is the duty of the physician to use it.

The later reports show in general a decided improvement in the results of the treatment over the earlier ones, and there is every reason to believe that the results of the second year's employment of the new treatment will make a much more favorable showing than those of the first year. We

shall come to a clearer understanding of the mode of action of the healing serum. Improvements in the methods of preparation and preservation of the serum, and possibly the separation of the healing substance, at least from other ingredients which produce the undesired effects, may be expected.

The discovery of the healing serum is entirely the result of laboratory work. It is an outcome of the studies of immunity. In no sense was the discovery an accidental one. Every step leading to it can be traced, and every step was taken with a definite purpose and to solve a definite problem.

These studies and the resulting discoveries mark an epoch in the history of medicine. It should be forcibly brought home to those whose philosophic sentiments outweigh sentiments of true philanthropy, that these discoveries have led to the saving of untold thousands of human lives.

Eight Hundred Pages for \$1.

In 1896 the *Tri-State Medical Journal*, an illustrated monthly medical magazine, will give its subscribers 800 pages of select medical literature for one dollar. Clubbed with the *KANSAS MEDICAL JOURNAL* for \$1.80. Address *Tri-State Medical Journal*, 3509 Franklin avenue, St. Louis, Mo.

Rest in Diphtheria.

In an exhaustive and comprehensive article entitled "Some Points Pertaining to the Present Pathologic and Therapeutic Status of Diphtheria," Dr. I. N. Love, professor of clinical medicine, diseases of children and hygiene, Marion-Sims Medical College, writes: "Rest is one of the sweetest words in our language, and in the management of no disease is this more true than in diphtheria. In keeping with the experience of Dr. T. E. Murrell, ex-vice president of the American Medical Association, and Dr. Pollock, of St. Louis, one of the most experienced practitioners of our city, who found

antikamnia valuable as a reliever of the pain of nocturnal earache, I have found it of great value as a sleep producer in these cases, given in doses of two and a half to five grains every two to four hours, accompanied by a judicious amount of stimulation, such as wine or toddy. There is no after depression, nor have I ever found other than satisfactory results when used." Dr. Eggers of Horton Place, also reports that, in the treatment of an attack of diphtheria he himself suffered, to relieve the pain consequent upon the injection of antitoxine serum, which ordinarily lasts from three to four hours, one full dose of antikamnia subdued it in a few minutes. Clinical reports verify the value of codeine in combination with antikamnia in the treatment of any neuroses of the larynx, coughs, bronchial affections, la grippe and its sequelæ as well as chronic neuroses, the therapeutical value of both being enhanced by combination. The tablets of "Antikamnia and Codeine," containing $4\frac{3}{4}$ grains antikamnia and $\frac{1}{4}$ grain codeine, meet the indications almost universally. As a pain reliever antikamnia either in powder or tablet form acts with safety, certainty and celerity.

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Vin Mariani and the Dispensary Law.

The dispensary law in South Carolina has of late been so rigidly enforced that many druggists were afraid to sell even medicinal preparations containing wine as one of the constituent parts. This seriously interfered with the sales of the well known tonic Vin Mariani throughout South Carolina, and the proprietors of that famous specialty made vigorous representations to the Governor on the subject. As a result of these representations, Vin Mariani has been especially exempted from the workings of the dispensary

law, as is shown by the following letter received by Messrs. Mariani & Co. from Gov. Evans:

(Copy.)

STATE OF SOUTH CAROLINA,
EXECUTIVE DEPARTMENT,
OFFICE OF STATE BOARD OF CONTROL,
COLUMBIA, S. C., Oct. 5, 1895.

Mariani & Co., 52 West Fifteenth street, New York.

Dear Sirs—In reply to your favor of 30th ult., Gov. Evans directs me to say that you have his permission to sell the Vin Mariani and he will exempt it from seizure in the State when not sold as a beverage.

Respectfully,

W. W. HARRIS, *Clerk S. B. C.*

Case I.

The Mercer Chemical Co., Omaha, Neb.:

GOTHENBURG, NEB., October 25, 1894.—

Dear Sirs: Mr. W——, aged 30, married over two years. Since having an attack of paralysis of the left side has suffered complete impotence—I say complete advisedly, as he has not experienced in all that time even a partial erection. But I must confess my great surprise and satisfaction after 24 days' treatment with your Pill Vita (Blue) to have the patient report himself entirely cured, and the verciot—guilty of using Mercer's Pill Vita (Blue)—has created happiness and reunited a happy couple. Respectfully,

DR. W. P. SMITH,
Ass't Surg U. P. Ry.

THE Kaw Pharmacal Co. have some samples of Guaiacoline that they would like to send you.

How can I have had hay fever here in mid ocean, doctor? "So many grass widows aboard."

JAMBUL in diabetes is highly recommended by Dr. Oliver Hughes, of New Haven.